FOWL PLAGUE

BEWARE OF THIS DEADLY FOREIGN DISEASE

PROGRAM AID NO. 987
U.S. DEPARTMENT OF AGRICULTURE

Fowl plague, or fowl pest, is a foreign virus disease that attacks poultry and causes paralysis and death in 2 to 4 days after the first signs of sickness appear.

Once chickens, turkeys, guinea fowl, and peacocks have been exposed to fowl plague, severe infection almost always occurs and death follows. Geese, ducks, pheasants, blackbirds, and sparrows are less severely affected. Fowl plague produces a relatively mild infection in other species of wild birds. Fowl plague does not affect humans.

This virus disease is very infectious and, once established, spreads rapidly. No effective vaccine has been developed and no effective treatment is known. At this time, prevention is the only control; quarantine and slaughter, the only effective means of stopping the spread of this disease.

WHERE IT OCCURS

Fowl plague was first recognized in northern Italy. Around 1880, Italian scientists described this disease and differentiated it from fowl cholera.

In 1894, a severe outbreak of fowl plague occurred in northern Italy and rapidly spread to the Tyrol region, Germany, Belgium, France; then later to Argentina and Brazil.

The first outbreak of fowl plague in the United States occurred in 1924. By the time the disease was identified and control measures put into effect, fowl plague had spread through nine States across the country. It was finally eradicated through vigorous use of quarantine and slaughter.

Fowl plague again invaded the United States 5 years later, but this time it was quickly diagnosed and confined to a single county in New Jersey. Evidence indicates that both of these outbreaks originated in the New York and New Jersey areas.

Presently, fowl plague is found in parts of eastern Europe, northern Africa, Angola, Ethiopia, Formosa, Korea, and southeast Asia. The disease may be dormant in some of the northern and eastern Mediterranean countries that were once heavily infested.

The poultry industry in the United States has been free of this disease since 1929. Yet, the increasing amount of travel from areas where the disease now occurs is increasing the hazard of its introduction by man on his clothing, baggage, and other articles.

Cyanosis (blueness of skin) of the comb and wattles is often present with this disease.

SIGNS

In chickens and turkeys, the course of fowl plague is rapid. The disease develops 3 to 7 days after the virus is introduced into the flock. Death normally follows within 2 to 4 days.

Some birds die without becoming noticeably ill. Within an infected flock, however, the following signs of fowl plague usually can be observed:

- Depression and droopiness.
- Ruffled feathers.
- Loss of appetite.
- Sudden drop in egg production.
- Loss of coordination in walking and standing.
- Blue discoloration of comb and wattles.
- Swelling of head, eyelids, comb, and wattles.
- Diarrhea.
- Blood-tinged discharge from the nostrils.
- Circling, followed by paralysis, in birds that survive 2 days.

Marked edema of the wattles with areas of necrosis can be seen in many cases.

Hemorrhages on the mucosa, or lining, of the ventriculus (gizzard) and proventriculus (glandular stomach) are typical of fowl plague. (bottom)

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SPREAD

The disease spreads from healthy to infected birds by direct contact. It can also be carried to an uninfected flock on contaminated equipment.

Wild birds sometimes transmit fowl plague. Scientists suspect that blood-sucking insects may also play some part in the spread of this disease.

Carcasses of birds that die of fowl plague are major reservoirs of infection. The virus can remain alive and infectious in these carcasses for long periods. The only safe way to dispose of an infected carcass is to burn it completely.

In infected areas, owners of clean flocks should watch for these sources of infection:

- Infected birds that are introduced into a healthy flock.
- Infected birds that are marketed during the incubation stage of the disease.
- Infected or contaminated eggs.
- Contaminated shipping crates that are not cleaned and disinfected before reuse.
- Poultry workers, servicemen, and others who carry the virus on shoes, clothing, or equipment.
- Infected carcasses not properly disposed of by complete burning.

CONFUSION WITH OTHER DISEASES

The external signs of fowl plague are very similar to those of other avian diseases. Most often, fowl plague is mistaken for Newcastle disease and fowl cholera.

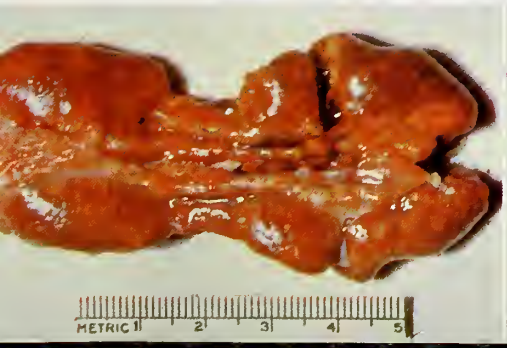
Fowl plague, however, has some differentiating signs. Typical of this disease is the swelling, bluish tinge, and necrotic lesions of the comb and wattles. Unfortunately, these clinical signs do not always appear.

The disease can only be identified with certainty through clinical examination by a trained diagnostician in combination with appropriate laboratory tests.

Ill-defined necrotic lesions in the liver (top) and massive necrosis in the spleen (bottom) are apparent.

The heart (top) has a subepicardial hemorrhage. The lungs show pneumonia and the spleen (bottom) is enlarged.

Necrotic lesions appear on the kidneys.



Pinpoint hemorrhages and larger hemorraghic areas are seen on the lining of the trachea.

POSTMORTEM DIAGNOSIS

On removing the skin from the carcass, a clear, straw-colored fluid is often found. In addition, blood vessels are usually engorged with blood.

The classical lesion of fowl plague is the hemorrhagic condition of the lining of the proventriculus, or glandular stomach. These hemorrhages are often pin-sized but may be much larger.

Next in importance are hemorrhages in the underlying surface of the gizzard, or muscular stomach.

Other organs and parts likely to show hemorrhages include: subcostal region of the chest wall, sternum, heart fat, gizzard fat, and abdominal fat.

Positive identification of the virus causing fowl plague requires laboratory testing.

HOW THE U.S. PROTECTS ITS FLOCKS

The U.S. Department of Agriculture has taken steps to protect this country against the introduction of fowl plague.

For example, import regulations are designed to admit only those foreign birds that are known to be healthy. Before a bird can be imported from any country where the disease is likely to exist, certain requirements must be met.

The bird must be accompanied by a U.S. import permit and a certificate of health signed by a Government veterinarian in the exporting country. Import inspections are made by Federal veterinarians at U.S. ports of entry, where a minimum 21-day quarantine is enforced.

If—in spite of these rigid measures—fowl plague should be introduced, the United States would launch its emergency disease-control plan promptly.

The first step would be to make a positive diagnosis of this deadly disease. USDA veterinarians, specially trained in the diagnosis of fowl plague, are available to assist in the investigation of any suspicious case. These veterinarians will collect diseased specimens and submit them to the appropriate laboratory for necessary diagnostic tests.

If the diagnosis is positive, full-scale eradication would begin at once. Congress has given the Secretary of Agriculture the authority to carry out an emergency eradication program and to pay owners for infected and exposed flocks destroyed under this program.

The cooperative State-Federal program would provide for quarantines, slaughter of infected and exposed birds, and cleaning and disinfection of affected premises.

HOW YOU CAN HELP

Be alert to the signs of fowl plague.

If a fatal disease infects the flock, or if large numbers of birds develop any of the signs listed, suspect fowl plague and take the following steps at once:

- Isolate sick birds in insect-proof quarters.
- Stop the movement of all birds from your farm.
- Notify your local veterinarian, State or Federal animal-disease-control officials, or your county agricultural agent of a suspected outbreak.

If fowl plague is found:

- Follow the recommendations of disease-control officials for disposing of dead birds and for eliminating all sources of infection.
- Restrict movement of personnel, equipment, and animals from affected premises.
- Clean and disinfect everything that must be removed from these premises.
- Join with your neighbors in active support of the eradication program.

Early recognition, early reporting, and early diagnosis are important in combating fowl plague. Your prompt action in alerting disease-control officials will enable them to start eradication before fowl plague can gain a foothold in U.S. flocks.

Prepared by
Veterinary Services
Animal and Plant Health Service
and
Veterinary Sciences Research Division
Agricultural Research Service

Washington, D.C. Issued February 1972

For sale by the Superintendent of Documents,
U.S. Government Printing Office
Washington, D.C. 20402 - Price 15 cents

☆ U.S. GOVERNMENT PRINTING OFFICE: 1971 O—441-105